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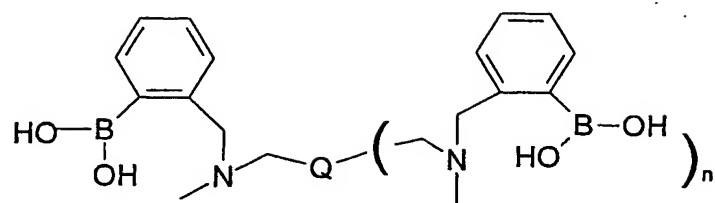


FIGURE 1A: Shinkai Dye
Q is a fluorophore; n = 0 or 1

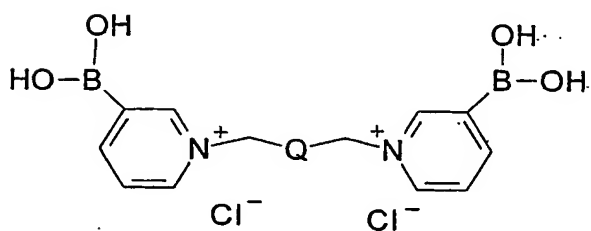


FIGURE 1B: Norrild Dye
Q is a fluorophore

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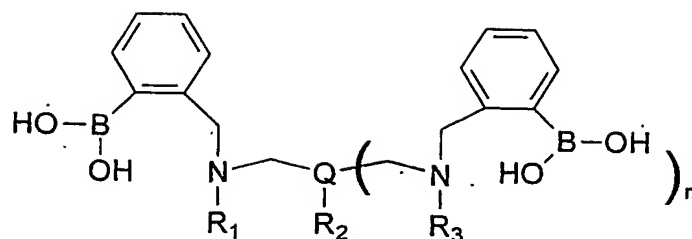


FIGURE 2A: Shinkai Dye

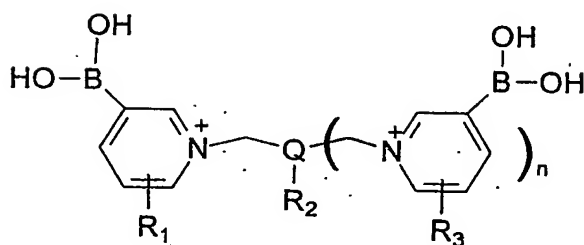


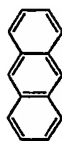
FIGURE 2B: Norrild Dye

Figure 2: Q is a fluorophore; and n is an integer from 0 to 1. One or more of R₁, R₂, R₃, is a linker arm attached to solid phase, and the rest are each independently selected from the group consisting of hydrogen, alkyl, alkenyl, aryl, arylalkyl, acyl, and substituted alkyl.

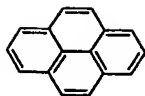
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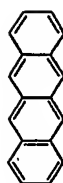
Napthalene



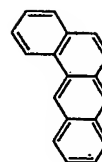
Anthracene



Pyrene



1,2 - Benzanthracene



2,3 - Benzanthracene

FIGURE 3

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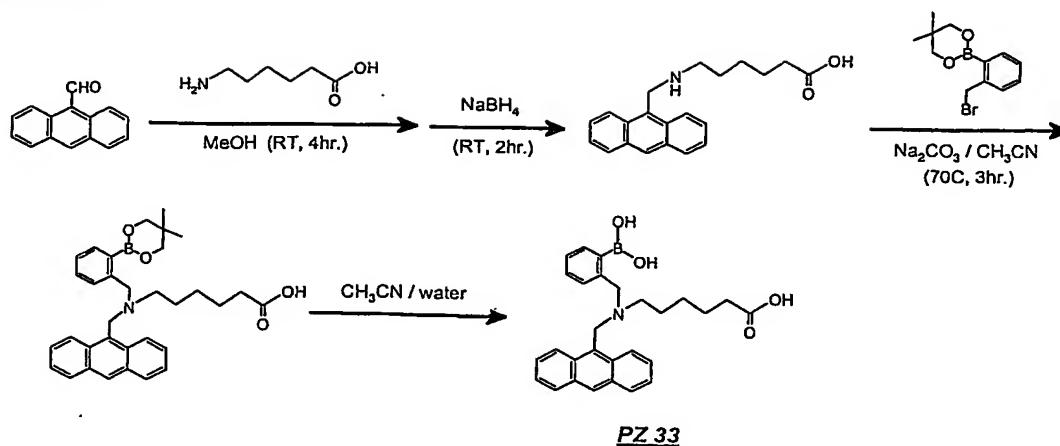
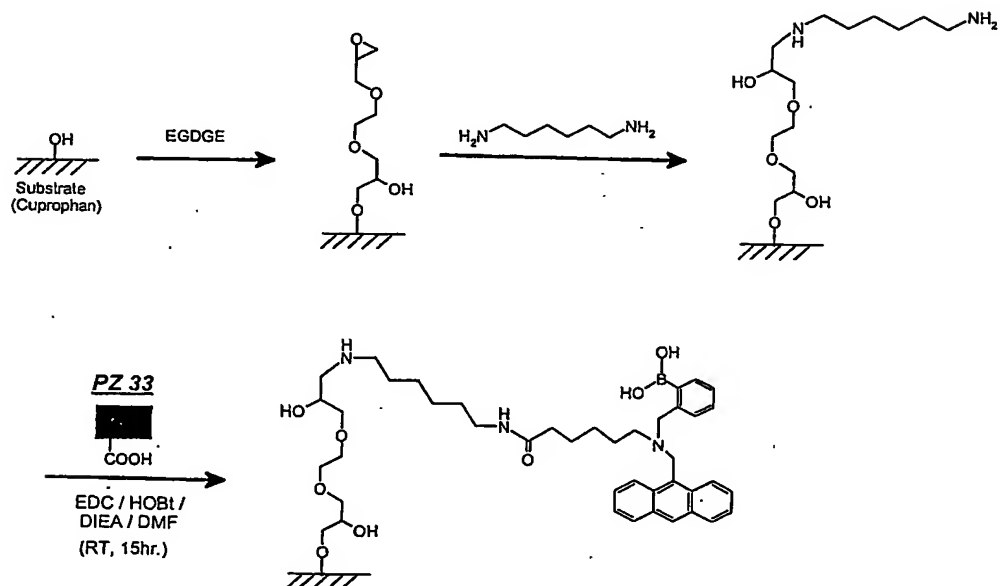
Synthesis**Immobilization**

FIGURE 4

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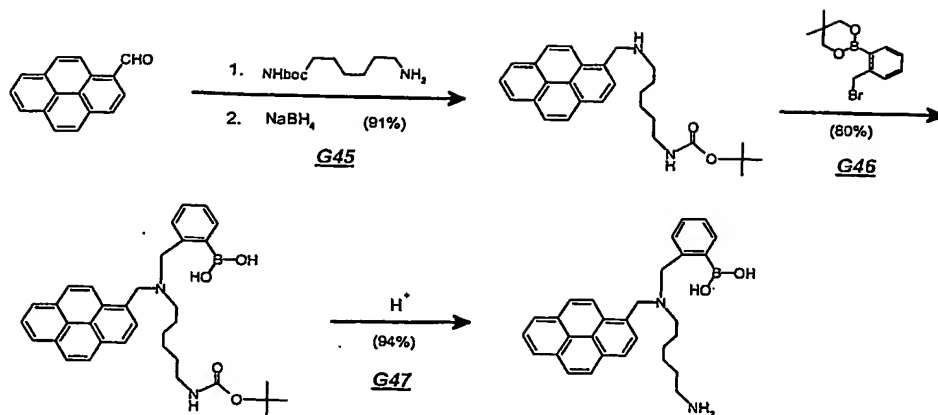
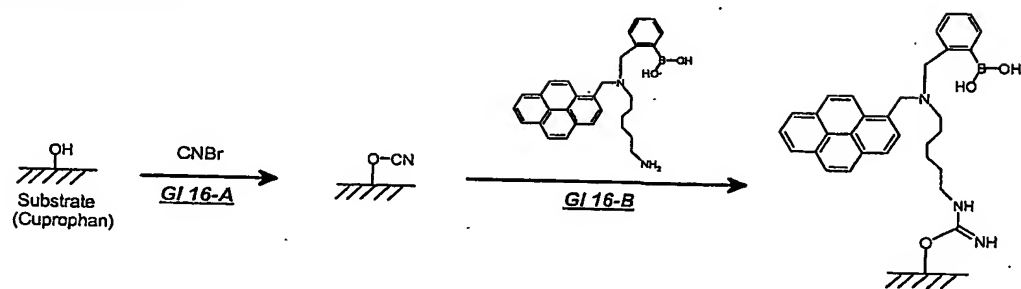
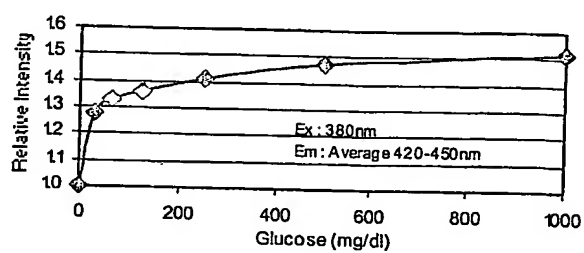
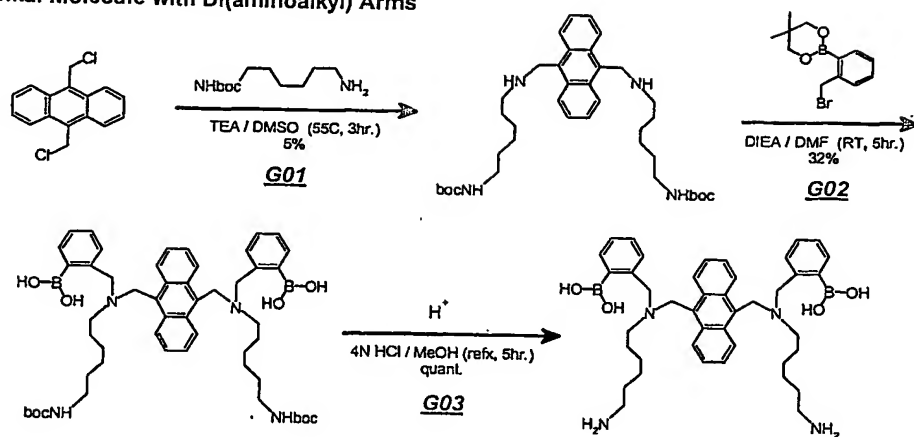
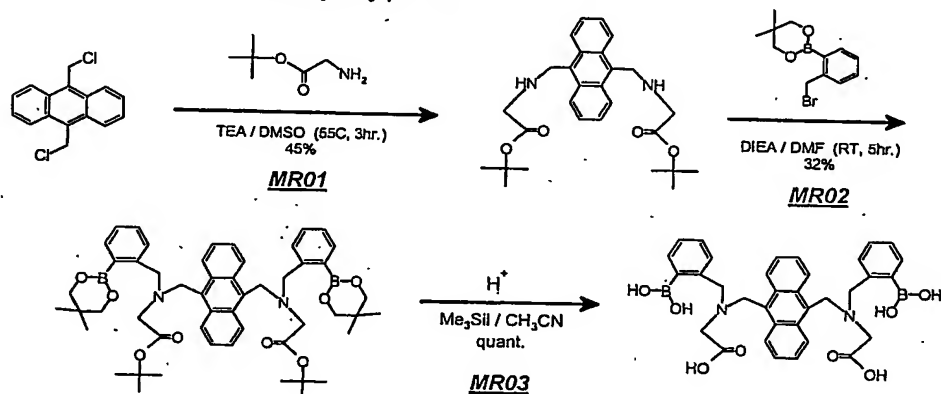
Synthesis**Immobilization**

FIGURE 5

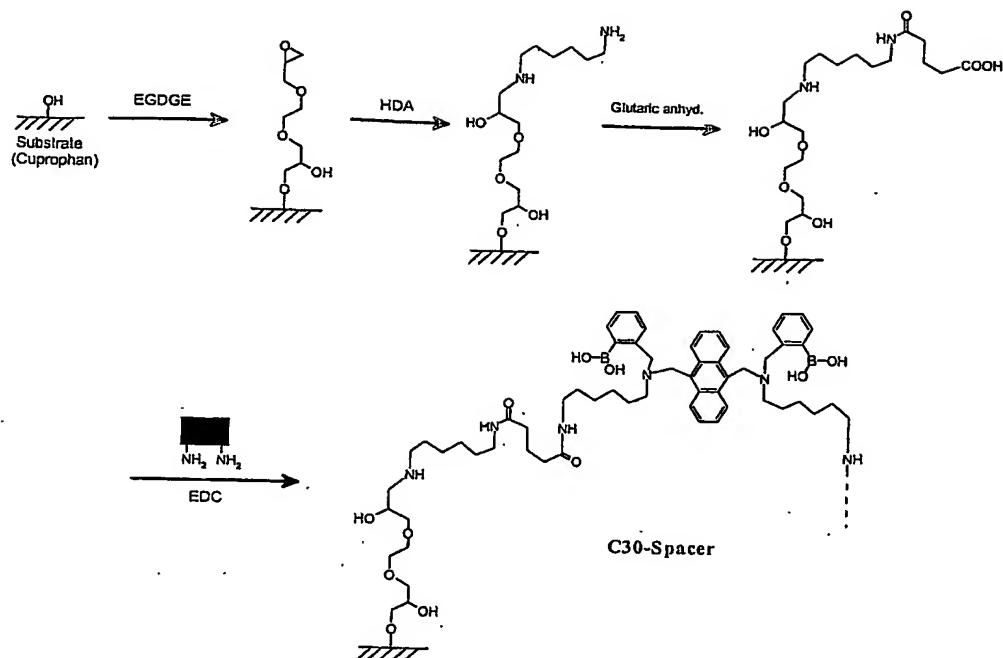
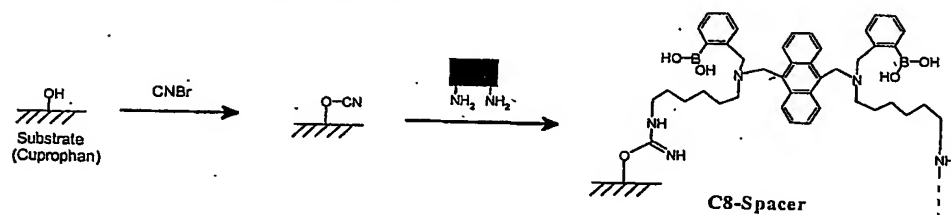
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Glucose Response of Saccharide Sensor GI 16-B**FIGURE 6**

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Syntheses**A. Shinkai Molecule with Di(aminoalkyl) Arms****B. Shinkai Molecule with Di(carboxylalkyl) Arms****FIGURE 7**

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GI02 Coupling to carboxyl group**GI04 Coupling to CNBr activated membrane****FIGURE 8**

**Immobilization: Shinkai Molecule with Di(aminoalkyl) Arms
Coupling through carboxyl and CNBr activated substrates**

GI 02 : Carboxyl activated regenerated cellulose film coupled to the amino-terminated dye in the presence of a condensation reagent such as carboimide (EDC).

GI 04 : Cyanogen bromide activated regenerated cellulose film coupled to amino-terminated dye.

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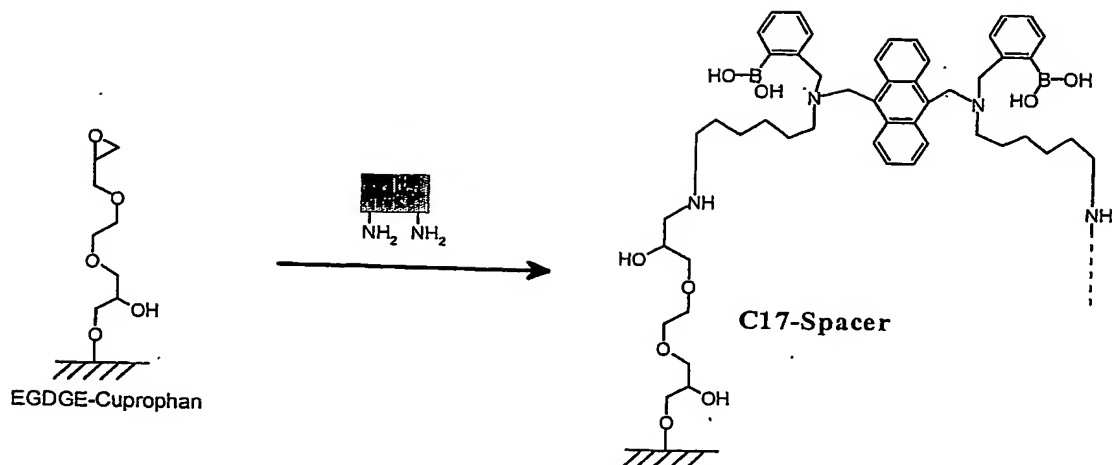
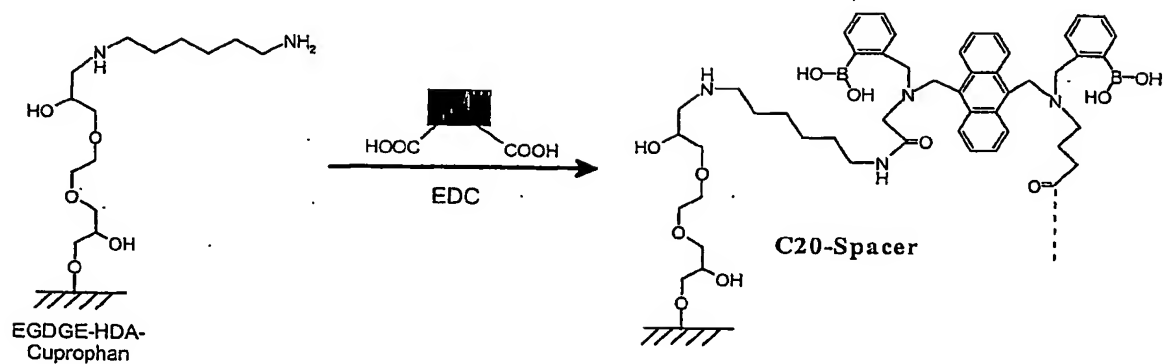


FIGURE 9

Coupling to EGDGE Activated Membrane

GI 05 : Amino-terminated dye is coupled to epoxy activated regenerated cellulose film.

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GI07 Coupling to carboxyl group**FIGURE 10****Shinkai Molecule with Di(carboxylalkyl) Arms**

GI 07 : The carboxyl-terminated dye is coupled to amino activated regenerated cellulose film.

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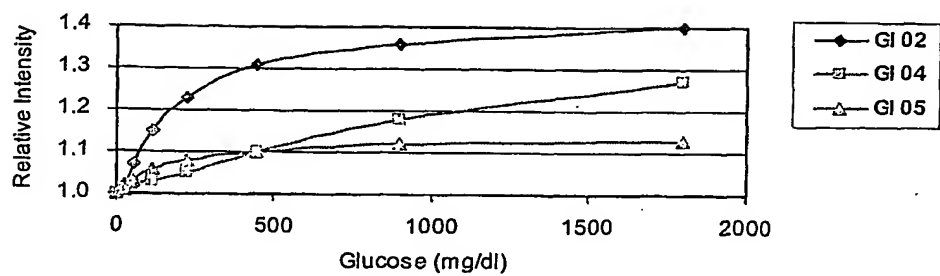


FIGURE 11

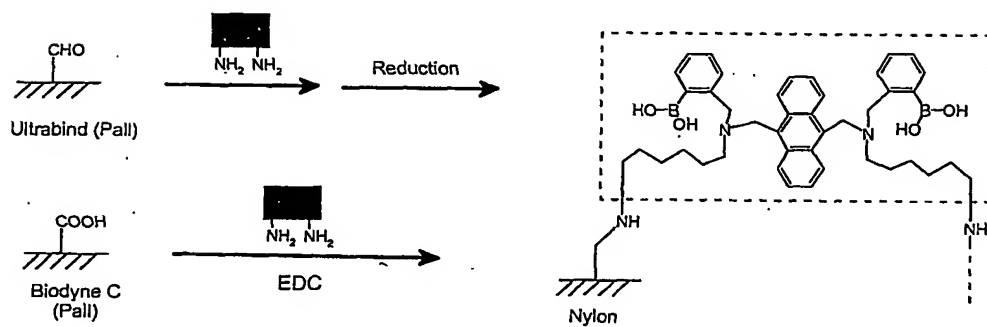


FIGURE 12

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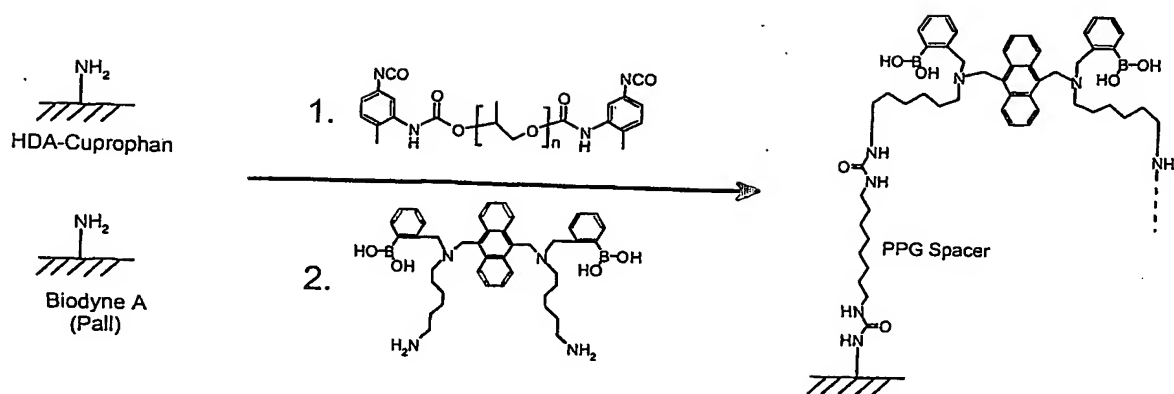


FIGURE 13

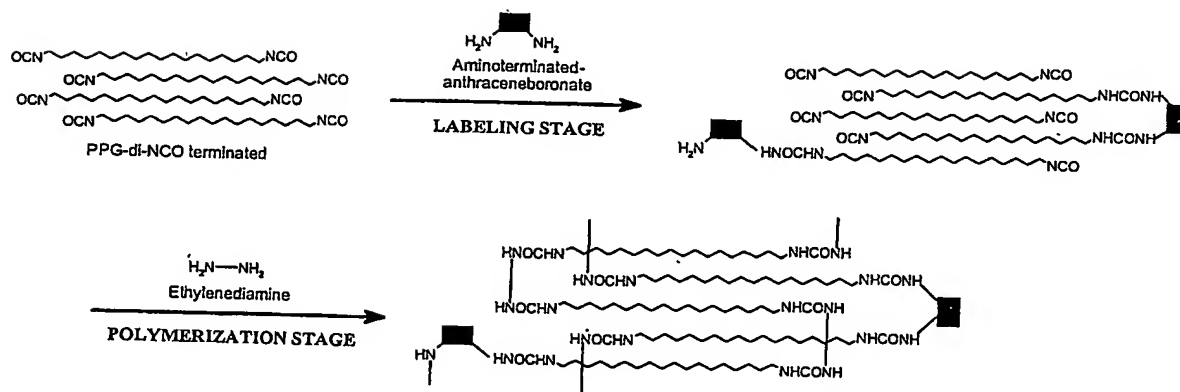


FIGURE 14

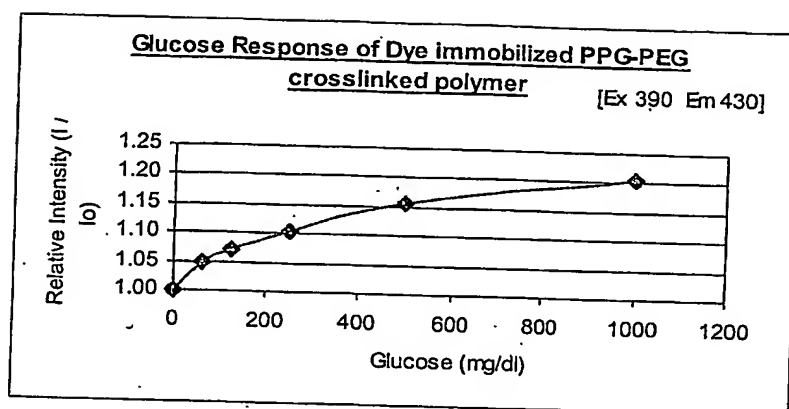


FIGURE 15

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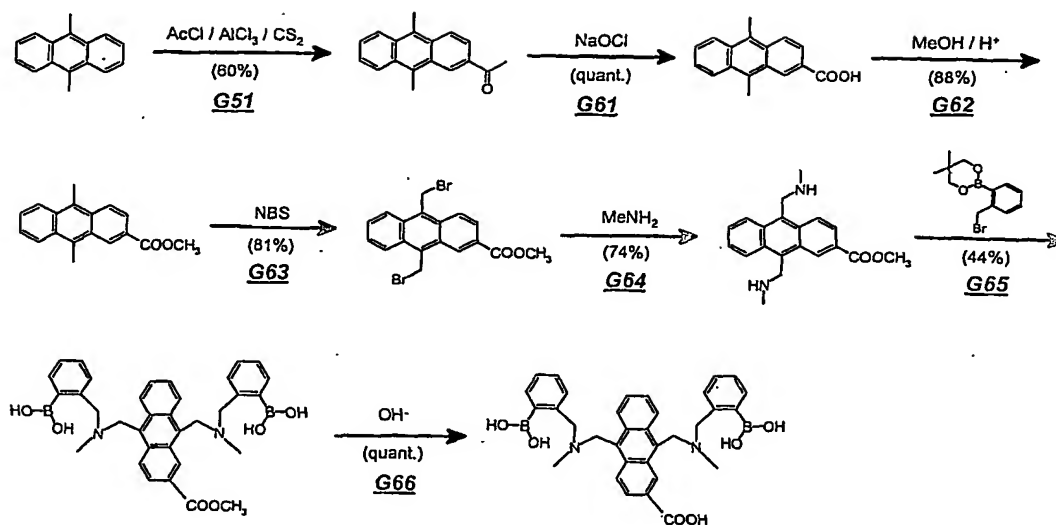
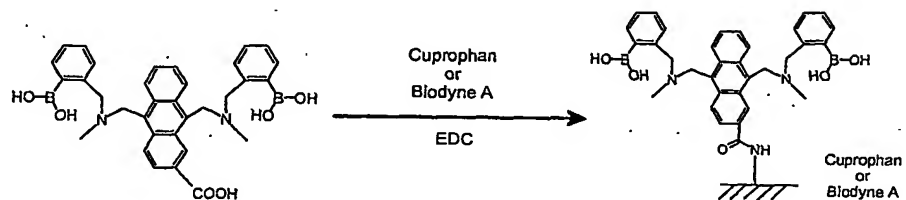
Synthesis**Immobilization**

FIGURE 16

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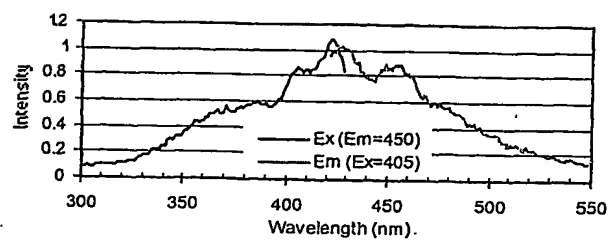


FIGURE 17
Fluorescent Property of Single-Arm Fluorophore Linked Sensor

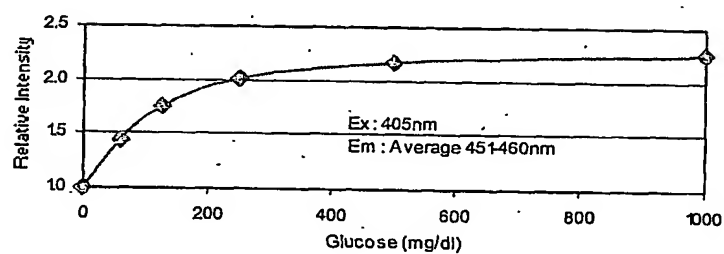


FIGURE 18
Glucose Response of Single-Arm Fluorophore Linked Sensor

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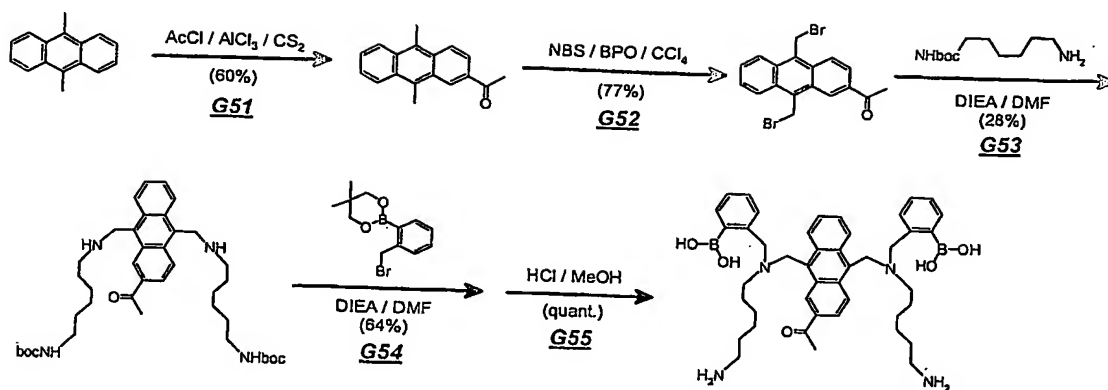
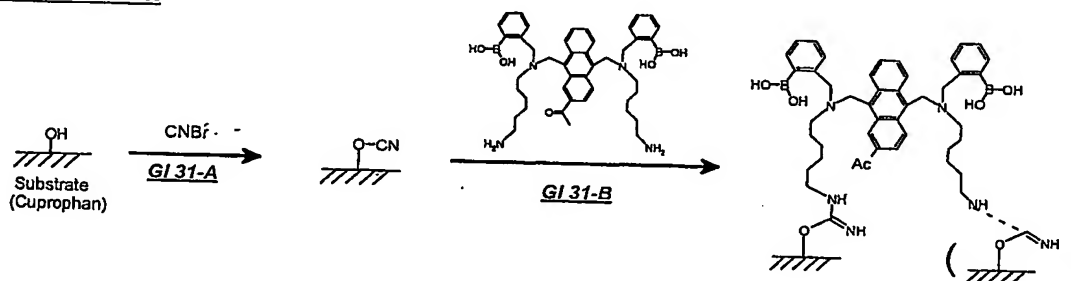
Synthesis**Immobilization**

FIGURE 19

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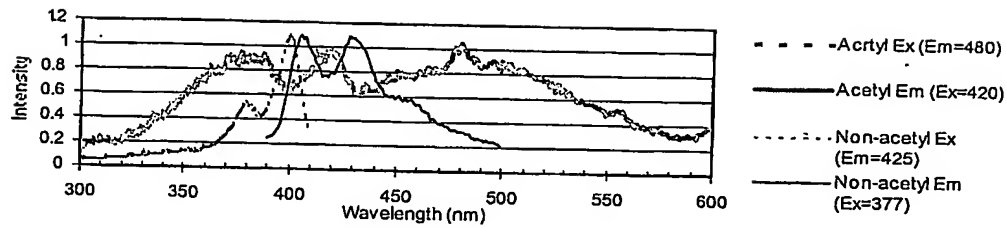


FIGURE 20
Fluorescent Property of Acetylated and Non-acetylated Anthracene Sensor

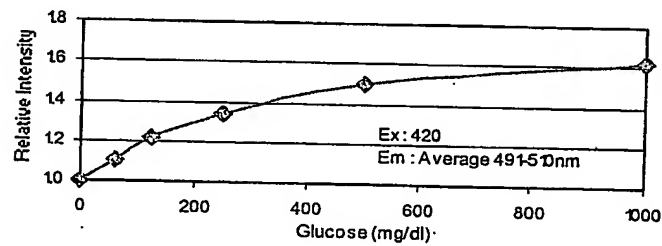


FIGURE 21
Glucose Response of Acetylated Anthracene Saccharide Sensor